

QUALITIMES

A Quality that does not change with times

June 2011

Volume 1, Issue 9

Editorial Panel:

- Prachi P
- Sunmeet S
- Venu M

(Want to be a part of the panel - Forward your interest to : - "qualitimes@qualitreeinc.com")

T = Together
E = Everyone
A = Achieves
M = More

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Editor's Choice...

Charanjeet S Minhas **Team Work**

A very bright young mind was perplexed.

It started when she was in Geekland galaxy. The spatial expanse was home to tired and retired computers. She saw millions of them in various unwinding postures; the body language of most said "never going back into service". After soaking this spectacle, she wandered into the middle of the galaxy. In the Navel stadium here, a fierce debate between software and hardware was raging. Hardware went first and made a magnificent case based on 'truth' and evidence. In reply, software said "Only knowledgeable know me. Others, yes, think, you are the whole thing; they don't see, know, or understand me. Without me inside, you can't even tell two plus two..."

Not waiting for the debate to finish, she started for the row pad to catch power board home. While in journey, she met Dr Celestial. A cerebral celebrity referred and acknowledged across the galaxies. "...both software and hardware are unaware. If I don't keep improving the cerebral cells over the time, both of them will soon become extinct", proclaimed he.

Who or what is most significant? Perplexed and tired thinking and thinking again, she drove to nearby village. The plants in the fields laden with fruits and vegetables looked picturesque. They seemed to be in a concert with the breeze; birds were providing the melodious music – so cheerful they sounded. Spellbound by the ambience, she almost missed an elderly man with cattle.

"Have you lost your way or are you hungry?" Perhaps both, she murmured back to his question. He was successful in convincing her to walk with him. For some reason, she started to feel better and told the villager her perplexity. His simple answer awed her! "It takes a village to raise a child, goes the saying. Team work gets things done" quipped he with a broad smile.

One piece of log creates a small fire, adequate to warm you up, add just a few more pieces to blast an immense bonfire, large enough to warm up your entire circle of friends; needless to say that individuality counts but team work dynamites.

Jin Kwon

[Has anything to share - We are all ears!! Please send in your articles to: qualitimes@qualitreeinc.com]

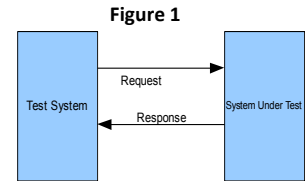
Part 2—TTCN-3:An Example - Two Coffees Please

Let us take a closer look at Testing and Test Control Notation Version 3 (TTCN-3) through an example. In this notation there is a view involving 3 important aspects: Configuration, Control and Communication. Let us zoom into the notation through the first two of the three aspects. These aspects are contained in what is called a Test System (which has a role of measuring the quality of a System Under Test). Usually 'testing' using this model of TTCN-3 involves an interaction between the Test System and the System Under Test as shown in figure 1. The exchange could take on a message or a procedural form.

In our current example the 'Test System' and the 'System Under Test' are both represented within the TTCN-3 notation as two separate components. An empty main component acts as the controller which launches our sole test case. The goal of this test case is to determine if the coffee drinker gets its due from the coffee machine. Any one with some programming language familiarity will find the module listing in Figure 3 self-explanatory.

Under the headings – Coffee Machine, and Coffee Drinker – we have listed the Configuration portions in order – Ports, Components, and Behaviour for each of these components. The ports are the channels or pipes for sending and receiving messages of specific kinds. While the components are the objects which hold among other things – ports. Each component usually has some behaviour associated which defines its actions. In this case the coffee machine behaviour is to keep accepting coins and whenever its received due amount for a cup of coffee it delivers it to the requestor. On the other hand our coffee drinker simply passes dues in coins for two cups of coffee and determines if it gets what is expected. The Message Sequence Chart in Figure 2 depicts the exchange in terms of Configuration and the Control sequence. The behaviour of the Main Test Component lies in creating the 'Coffee Drinker' and the 'Coffee Machine' components, connecting their ports, and thereafter letting the components run through their behaviour.

Please spend a little time to read over the code – you will gain much insight into the TTCN-3 notation. We will follow up on this example in Part 3 of this article – when we take the coffee machine to its own separate 'System Under Test' program entity. This is when we get to look at the third aspect – Communication.



```

module Main {
  // Common Types
  type integer Coin ( 10, 20, 50, 100, 200 );
  type charstring Coffee ( "CoffeeCupA" );
  // Common Templates
  template Coin a_coin10 := 10;
  template Coin a_coin20 := 20;
  template Coin a_coin50 := 50;
  template Coin a_coin100 := 100;
  template Coin a_coin200 := 200;
  template Coffee a_cupOfCoffee := "CoffeeCupA";
  // Coffee Machine
  type port CoinInputPortType message { in Coin }
  type port CoffeeOutputPortType message { out Coffee }
  type component CoffeeMachineComponentType {
    port CoinInputPortType InputPort;
    port CoffeeOutputPortType OutputPort;
  }
  function CoffeeMachineFunction() runs on CoffeeMachineComponentType
  {
    const Coin Price := a_coin50;
    var Coin coin;
    var integer Amount;
    Amount := 0;
    while (true) {
      InputPort.receive(Coin:?) -> value coin;
      Amount := Amount + coin;
      while (Amount >= Price) {
        OutputPort.send(Coffee:"CoffeeCupA");
        Amount := Amount - Price;
      }
    }
  }
  control {
    execute( TwoCoffeesPlease() );
  }
}
// Coffee Drinker
type port CoinOutputPortType message { out Coin }
type port CoffeeInputPortType message { in Coffee }
type component CoffeeDrinkerComponentType
{
  port CoffeeInputPortType InputPort;
  port CoinOutputPortType OutputPort;
}
type component CoffeeDrinkerComponentType
{
  port CoffeeInputPortType InputPort;
  port CoinOutputPortType OutputPort;
}

```

```

function CoffeeDrinkerFunction() runs on CoffeeDrinkerComponentType
{
  var integer Count;
  OutputPort.send(a_coin100);
  Count := 0;
  timer t;
  t.start(5.0);
  alt {
    [] InputPort.receive(Coffee:"CoffeeCupA") {
      Count := Count+1;
      repeat;
    }
    [] t.timeout {
  }
  }
  log("Received " & int2str(Count) & " cup of coffee.");
  if (Count == 2) {
    setverdict(pass);
  }
  else {
    setverdict(fail);
  }
}
// Main Test Component
type component EmptyComponentType {}

testcase TwoCoffeesPlease () runs on EmptyComponentType system EmptyComponentType
{
  var CoffeeMachineComponentType CoffeeMachine;
  var CoffeeDrinkerComponentType CoffeeDrinker;

  CoffeeMachine := CoffeeMachineComponentType.create;
  CoffeeDrinker := CoffeeDrinkerComponentType.create;

  connect(CoffeeDrinker.OutputPort, CoffeeMachine.InputPort);
  connect(CoffeeDrinker.InputPort, CoffeeMachine.OutputPort);

  CoffeeMachine.start( CoffeeMachineFunction() );
  CoffeeDrinker.start( CoffeeDrinkerFunction() );

  timer t; t.start(6.0); t.timeout;
  CoffeeMachine.stop;
}

```

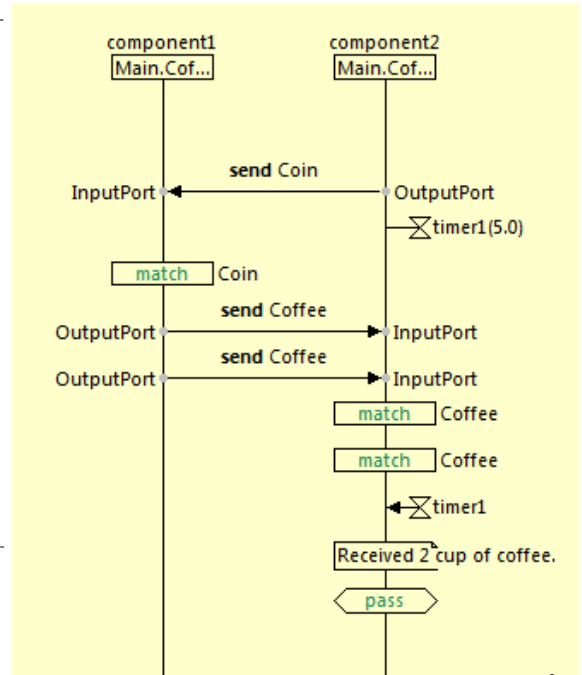


Figure 3 - Module Listing.

Figure 2 - Message Sequence Chart

About the author: Prabhjot is the commander - in - chief of the TTCN-3 research and development unit at Qualitree. He has authored various publications and is a TTCN-3 certified professional by ETSI.

It's pulls and bumps time

*Punches, pulls
and bumps!!*

- June 1 - Sathish R
- June 1 - Sanjay P
- June 5 - Harnarinder S
- June 11 - Madhukar G
- June 11 - Shruti B
- June 20 - Uday K
- June 22 - S Raju
- June 25 - Seethayya K
- June 28 - Rajath



It happens often,
When your ink dies,
In the midst of the class,
You look at the other guys,
And the lecturer dictates,
While your heart cries,
You think you are helpless,
Your courage shies,
Then your head steers,
The lecturer comes near,
Your mind fills with fear,
That great gentleman says,
TAKE A PEN MY DEAR.....
— Rajath V

May you have many more.....
Clockwise from top: Surinder Pal singing and swinging on his birth day cake; Surendra Kadam and Minal Doere set to cut the cake while others seem to look forward for a slice ; Bharath, face painted with cream seem to enjoy his joyous birthday moments.



Ishita, Harsimran, Durgesh and Charanjeet sharing a humorous moment together.

Answers to last month's Jumble:

- BRANCH
- REPLAY
- CONTEXT
- EXTREME

Last Month's Winner:
Srikanth K

Other correct entries:
Sreekanth M, Amit C, Nicholas Jose, Bharath S, Rosaline S, Brian F, Tanvi K

JUMBLE

BLSFSAE ○○○○○○○○

LPLAAYW ○○○○○○○○

NIUWFRG ○○○○○○○○

MEMFUIER ○○○○○○○○

Contributed by Rajat R

Participate and win; the first correct entry wins a gift of \$10.00*. Send in your completed entries to: jumble_qualitimes@qualitreeinc.com



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BUZZ OF THE MONTH

- Harsimran Buttar joins the Canada sales wagon. Tanvi Kakkar joins the technical wagon in Bangalore. A very warm welcome to both of them and wishing success in years to come.
- Our interest in doing business with government sector in India takes a concrete shape and moves a step forward with our empanelment with Andhra Pradesh government and vendor registration application submission with a DRDO lab.
- The month of May saw a successful launch of the WIN-IT campaign in the Indian and the North American region.
- A real estate and resort management client from North America shows interest in Qualitree's Quality Assurance and testing services.
- Strengthened the ties with Nexus Telecom by submitting a proposal to implement the Nexus solution at one of India's largest telecom subsidiary. Also, a final level of talks are in progress for developing a solution using TTCN-3. The first phase will be in a form of a POC.



Parthive S Zaveri, Director, Business Development addressing at a sales boot-camp organized by Tekstrom limited, Canada, in Mississauga, Ontario, Canada.

Last month's winner:

Ria J

Other correct entries:

- * Rosaline S
- * Tanvi K
- * Brian H
- * Abhay P

Answers to last month's Word Puzzle:

- FLYLEAF
- TOAST
- CLERIC
- ARMADA
- XEROX

Word Puzzle

In the following word puzzles, a word starts and ends with the same letter. Figure out the words and win*

1	_ ARSNI _	
2	_ UR PAS _	
3	_ R US _	
4	_ O MI _	
5	_ IN DO _	

* Send in your entries to "qualitimes@qualitreeinc.com" with the subject "Word Puzzle"

The first correct entry wins a gift of \$10.00